IN3

ESTIMATING THE SUPPLY AND DEMAND OF BUTANTAN DENGUE VACCINE IN BRAZIL

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OBJECTIVES: To estimate the demand, implementation costs, and economic impact of Butantan's one-dose tetravalent dengue vaccine in Brazil. **METHODS:** We modeled the supply and demand of dengue vaccine nationally and for 6 key states using an existing strategic demand forecasting model. Input parameters on disease burden, vaccine product and pricing, production capacity, introduction strategies, and implementation costs were derived from local Brazilian stakeholders. Country-specific epidemiological data were obtained from disease reporting systems. Algorithms were developed to model 30 year dengue vaccine demand, total implementation cost, and vaccine impact using different age group introduction scenarios. Brazil's highest dengue burden is among adults 19-46, and strategies targeting adults were modeled with the traditional child population. **RESULTS:** Initial strategies targeting all ages or ≥15 year olds exceeded capacity and were considered not feasible. The demand for all strategies was below capacity for all scenarios, but by year 2048, the demand including boosters exceeds capacity for adult scenarios except for ages 19-31 (86.73M) and 31-46 (117.06M). At $5 per dose, the average annual total cost of introduction ranged from $21.05-$322.21M in the first 10 years and $52.58-844.13M in the last 10 years. The most affordable scenario is children 1-2 years, but this scenario had little impact on the disease burden (34% reduction in last 10 years). The combination scenario (staggered vaccine introduction for 2-46 year olds for 5 years followed by 1-2 year olds) has the greatest impact with 90% and 79% reduction in cases and deaths respectively, and 84% annual treatment cost savings. **CONCLUSIONS:** Vaccinating adults followed by children yields the greatest vaccine impact. Vaccine price, introduction strategies, age, and production capacity are major drivers of the demand and require consideration when deciding vaccine introduction. Dengue vaccine has the potential to reduce cases and associated costs substantially based on various introduction scenarios.

IN4

ECONOMIC COSTS OF BACTERIAL MENINGITIS: A SYSTEMATIC REVIEW

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OBJECTIVES: A systematic review was used to assess economic costs of bacterial meningitis. **METHODS:** PubMed, Scopus and NHS-EED were searched to identify eligible papers. Economic evaluations that cost bacterial meningitis cases were selected. Reported direct and indirect costs were converted to 2012 international dollars and reported in ranges (minimum and maximum). **RESULTS:** We identified 621 non-duplicated articles. 118 papers were selected for full-text revision. 25 studies accomplished the inclusion criteria and were carried out in 27 countries. Most studies were undertaken in high-income countries (n=17). Only two studies took place in low income countries. Minimum and maximum laboratory mean costs were found in Burkina Faso (I$ 6) and Chile (I$ 1,604), respectively. Regarding to medication costs, the mean minimal cost was I$ 90 (Kenia) and the maximal I$ 1,284 (Rusia). Chile recorded the higher hospital cost of stay (I$ 9,144) and Burkina Faso the lower (I$ 107). Out-of-pocket health expenditures were estimated only in one study (Senegal, I$ 2,444). Among high income countries studies, the higher and lower total costs were reported in the United States and Suiza (I$151,449 – I$3,804). **CONCLUSIONS:** A large cost variability was found in the included studies. High-income countries economic costs were superior versus low-income countries costs. Even though Subsaharian countries has a high bacterial meningitis incidence, only three studies were undertaken in this area.

MEDICAL DEVICE & DIAGNOSTIC RESEARCH STUDIES

MD1

EVALUACIÓN ECONÓMICA DEL CARDIO-DESFIBRILADOR IMPLANTABLE COMPARADO CON LA TERAPIA FARMACOLÓGICA OPTIMA PARA EL TRATAMIENTO DE LOS PACIENTES CON FALLA CARDIACA EN COLOMBIA

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OBJECTIVES: determinar, desde la perspectiva del sistema de salud colombiano, la relación de costo efectividad del uso de un CDI en comparación con no hacerlo, para evitar la muerte súbita en pacientes con cardiomiopatía isquémica o no isquémica, FE menor al 35%, DSVI y estadio NYHA II-III. **METHODS:** se desarrolló un modelo de Markov que incluia costos, efectividad, calidad de vida y supervivencia para un horizonte de base de 10 años. Las probabilidades de transición se extrajeron de estudios identificados en la literatura. La valoración de los recursos se realizó mediante consultas a fabricantes del dispositivo, a manuales tarifarios y al sistema nacional de información de medicamentos. Se realizaron análisis de sensibilidad probabilísticos y determinísticos. **RESULTS:** en el caso base, considerando conjuntamente pacientes isquémicos y no isquémicos, el CDI en comparación con la TFO reporta una RICE de $30.345.73 por AVAC. En el análisis de subgrupos, para los pacientes isquémicos la RICE es de $33.412.184 por AVAC, en los no isquémicos es de $47.030.266 por AVAC, y para pacientes con resultado positivo de un estudio electrofisiológico es de $19.558.355 por AVAC. Considerando una disposición a pagar de tres veces el PIB per cápita del 2013 ($45.026.378), la probabilidad de que el CDI sea costo efectivo es del 97,5%. **CONCLUSIONS:** El uso de un CDI para prevenir la muerte súbita en pacientes con FC es una estrategia costo efectiva para el sistema de salud colombiano, en especial para el subgrupo de pacientes isquémicos y para los pacientes con resultado positivo de un estudio electrofisiológico. En el análisis para los pacientes no isquémicos la costo efectividad depende del escenario escogido, superando algunas veces el umbral y otras no. En general, los resultados son sensibles a cambios en variables como el horizonte temporal, las probabilidades de muerte y el precio del CDI.

MD2

MEDICAL DEVICES – FROM LICENSING TO COVERAGE: HIGHLIGHTS FROM ARGENTINA, BRAZIL, COLOMBIA, AND MEXICO

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OBJECTIVES: To assess, describe and compare the requirements and pathways of medical devices from licensing to coverage in four Latin American countries (LAC) health systems. **METHODS:** We conducted a literature search (February 2015) on Pubmed, Lilacs and Value in Health Regional Issues journal. We also searched specific websites of Health Technology Assessment (HTA) and regulatory agencies, ministries of health and health agencies; and a performed generic Internet search. We included all publications describing aspects related to regulation, coverage, medical technology innovation, and HTA and Economic Evaluation (EE) guidelines. We additionally interviewed key informants from all countries to gather information related to the aforementioned processes. We present here the literature search results. **RESULTS:** We included 60 studies out of 2190. Five percent of the publications analyzed the four countries jointly, 75% were from Brazil, 8.3% from Mexico, 5% from Colombia and 5.7% from LAC in general. Half of the studies described the role of the HTA and EE in decision-making and aspects or policies related to innovation (25% and 23.3%). Regarding the description of the coverage process, it was addressed in 13.3% of the studies; 10% of the publications focused on technovigilance; and also 10% on regulatory aspects. Remaining publications were methodological guidelines and general descriptions of the health systems and the role of medical devices. All countries had HTA and EE guidelines, although there did not include device specific recommendations. There is a spectrum of HTA formalization for technology incorporation after licensing, higher in Brazil and lower in Argentina **CONCLUSIONS:** There is scarce information on the processes and requirements to achieve coverage for medical devices in these countries. Processes differ, are in general not explicit, lack transparency, and usually replicate those of drugs not taking into account the specificities of medical devices.

MD3

STAPLED HAEMORRHOIDOPEXY TO TREAT HEMORRHOIDS GRADE III AND IV: A SYSTEMATIC REVIEW AND META-ANALYSIS

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OBJECTIVES: Hemorrhoids are not life-threatening, but they can cause itching, bleeding and pain, worsening quality of life. Stapled haemorrhoidopexy (SH) is a specially designed circular stapler used to cut out a strip of the tissue above the hemorrhoids in an area of the rectum that doesn't feel much pain. The operation helps to reduce the hemorrhoids and it also helps shrink the remaining hemorrhoids by reducing their blood supply and makes them less likely to extend out of the anus. The aim of this study was to review and analyze the evidence of SH. **METHODS:** The electronic databases PubMed, EMBASE, The Cochrane Central Register of Controlled Trials, Wiley and OVID, were reviewed. The date limit was set to February 10th of 2015. The studies included were, RCT, the intervention being SH, and the comparison, conventional surgical techniques (CST). The primary outcome was to evaluate the patient acceptability and the second outcome was to evaluate length of stay, pain and time to return to work, only English language was recovered. Quality was assessed with GRADE scale. Meta-analysis was conducted with RevMan 5.3 for patient acceptability and length of stay, by random effect. **RESULTS:** 65 records were identified in all databases described, 6 records met the inclusion criteria (n=1503) comparing the SH with CST with a mean follow-up of 15 months. Patient preference was higher in SH compared with CST (OR 1.51[1.03-2.2]; I2:26%, p=0.03.) Length of Stay was significantly lower in SH group (MD -0.74[-1.27;-0.21]; I2:96%, p<0.00001, n=1299). Adverse events were similar between strategies. SH offers less post-operative pain and fast return to work activities. **CONCLUSIONS:** SH is a safe and effective treatment to treat hemorrhoids grade III and IV, improve hospital efficiency and has higher patient acceptability.

MD4

COST EFFECTIVENESS OF DRUG COATED BALLOON VERSUS PERCUTANEOUS TRANSLUMINAL BALLOON ANGIOPLASTY IN THE TREATMENT OF PERIPHERAL ARTERIAL DISEASE IN LOWER LIMBS IN BRAZIL

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OBJECTIVES: Cost-Effectiveness analysis of Drug Coated Balloon (DCB) vs. Percutaneous Transluminal Balloon Angioplasty (PTA) in the treatment of Peripheral Arterial Disease in lower limbs from Public Healthcare System (SUS) in Brazil. **METHODS:** An analytical decision model was considered with Target Lesion Restenosis (TLR) Avoided and total cost at the end of two year period as endpoints. An Excel model was developed. Effectiveness data was taken from a pooled analysis and second revascularization procedures probabilities were taken with KOL criterion. A public Healthcare System (SUS) payer perspective was assumed. Total direct costs for reimbursement were taken from Tabnet/Datasus–2014. Because effectiveness and cost were taken as unique values at the end of the two years, discount rate was no applied. Sensitivity Univariate analysis was done for DEB vs. PTA. For the Probabilistic Sensitivity Analysis a Monte Carlo Simulation with 1000 iterations